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March 12, 2004

TO: Each Supervisor

FROM: Thomas L. Garthwaite, M.D.
Director and Chief Medical Officer

Jonathan E. Fielding, M.D., M.P.H.
Director of Public Health and Health Officer

SUBJECT: **UPDATE ON COMMUNITY HEALTH CONCERNS AND SUNSHINE CANYON LANDFILL**

This is an update of the ongoing investigation of the health concerns of the community living near Sunshine Canyon Landfill. Please refer to the letter dated October 14, 2003 for further information (Attachment I).

Dr. Paul Simon, Director of Health Assessment and Epidemiology, and the staff of the Toxics Epidemiology Program convened meetings with community representatives on November 18, 2003 and December 16, 2003 to provide them with updated findings, and to discuss the details of our upcoming household survey.

The following actions have taken place or have been initiated:

- 1) **Analysis of cancer rates by the University of Southern California Cancer Surveillance Program (CSP):** At the November 18, 2003 meeting with community representatives, Drs. Wendy Cozen and Thomas Mack of the CSP provided a detailed report of the rates of cancer in the community near Sunshine Canyon Landfill, and compared these rates to those in the adjacent census tracts extending to the south of the landfill, and to the general Los Angeles population. Their report indicated that there was no excess of cancer in the community. Dr. Cozen presented these findings to the Los Angeles Regional Water Quality Board meeting in November 2003.
- 2) **Analysis of low birth weight births:** Results from state-obtained data indicate that the rate of low birth weight births in this community during 1995-2000 was similar to the rate reported countywide.

- 3) **Analysis of data from the California Birth Defects Monitoring Program:** John A. Harris M.D. M.P.H. of the California Birth Defects Monitoring Program provided an assessment of birth defects data from 1990-2001. These results indicate that there is no difference in birth defect rates among residents living in the 3 zip codes near the landfill compared to Los Angeles County as a whole (Attachment II).
- 4) **Analysis of death rates and causes of death:** Death certificate data from 1996-2001 indicate that the death rates and causes of death in the community are similar to those reported countywide.
- 5) **Analysis of childhood asthma:** With written parental permission facilitated by school principal Donna Zero, data was gathered from over 150 student school health records from Van Gogh Elementary School. The rates of asthma observed at Van Gogh Elementary School were similar to the rates found countywide.
- 6) **Household survey:** At the December 16, 2003 meeting with the community representatives, we provided details of our upcoming household survey. The survey will gather data on cancer, respiratory illnesses, and other health-related information. We will perform a targeted door-to-door survey of a random sample of households in the census tract closest to the landfill. In addition, we will perform the same survey in a comparison community away from the landfill, in census tract 1131.00. This census tract has similar demographics to those found in the community near the landfill. We anticipate beginning the survey in February, and we estimate 200 total households will be sampled.
- 7) **Additional cancer case-finding:** After the conclusion of the data-gathering phase of the Household Survey, we will distribute standardized reporting forms to the community to identify cases of cancer in those living in the community and in family members who may have moved away.
- 8) **Literature Review:** A review of the published scientific literature on the relationship between landfills and human health reveals that the rate of low birth weight births may be higher in communities that live near landfills. This finding is not consistent from study-to-study, and it has not been linked to the exposure to any specific chemical. No significant increases in other human health effects were found in communities near landfills.

As more results of this investigation become available, we will provide you with further information. If there are any questions or concerns, please let either of us know.

TLG:JEF:cr
309:013

Attachments

c: Chief Administrative Officer
County Counsel
Executive Officer, Board of Supervisors
James Stratton, MD
Dennis Dickerson



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October 14, 2003

TO: Each Supervisor

FROM: Thomas L. Garthwaite, M.D.
Director and Chief Medical Officer

Jonathan E. Fielding, M.D., M.P.H.
Director of Public Health and Health Officer

SUBJECT: COMMUNITY HEALTH CONCERNS AND SUNSHINE CANYON
LANDFILL

This is in response to the September 9, 2003 Board motion instructing the Department of Health Services to attend the September 11, 2003 Los Angeles Regional Water Quality Board meeting and report back to the Board with recommendations for examining claims of cancer and other illnesses among individuals living near the Sunshine Canyon Landfill. Dr. Paul Simon, Director of Health Assessment and Epidemiology, attended the Water Quality Board meeting. He and staff in the Toxics Epidemiology Program have reviewed background materials related to the landfill and associated health complaints. They also convened a meeting with approximately 20 community representatives on September 30th to obtain additional information on the health concerns and to begin discussions on possible approaches for investigating these concerns. During this process, they have worked closely with Dr. James Stratton, of the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA), who was asked by the Water Quality Board to provide consultation on these community health concerns.

Based on the information collected to date, the following actions are recommended and have been initiated:

- 1) Request additional analysis of data from the University of Southern California Cancer Surveillance Program (CSP): State law mandates that all cancers (except non-melanotic skin cancers) diagnosed in California residents be reported to the California Cancer Registry (CCR). The USC CSP, which is the Region of the CCR serving Los Angeles County, has collected statistics on cancers diagnosed in the county population since 1972. The CSP

and adheres to rigorous quality control standards to ensure accurate and complete reporting of all cases. The CSP has conducted two prior analyses of cancer rates in the area just east of the Sunshine Canyon Landfill and neither has shown an excess of cancer. We have asked that they conduct additional analysis of cancer rates in the adjacent census tracts extending to the south of the landfill. We have been told that they will provide a completed report in the next two weeks.

- 2) **Analysis of low birth weight births:** Because of community concerns expressed about possible adverse birth outcomes, we analyzed data from birth certificates on all births in 1995-2000 among women residing in the nine census tracts closest to the landfill. These data are required by state law to be reported on all live births. The results indicate that the rates of low birth weight births in the nine census tracts during the 6-year period were similar to the rate reported countywide.
- 3) **Analysis of data from the California Birth Defects Monitoring Program:** This program collects data on all infants born with selected birth defects in the state. In Los Angeles County, data are collected on five conditions: Down Syndrome, cleft lip with or without cleft palate, neural tube defects (e.g., spina bifida), and two congenital heart defects (transposition of the great arteries and Tetralogy of Fallot). To further address community concerns about possible adverse birth outcomes, we asked the state's Birth Defects Monitoring Program to compare the rates of these five conditions in the two zip code areas (they do not have data by census tract) nearest the landfill with the rates seen countywide. We have been told they will issue their report in the next two weeks.
- 4) **Analysis of death rates and causes of death:** State law requires that death certificates be filed on all deaths and include information on age at death and causes of death. We are currently analyzing death certificate data for the period 1996-2001 to determine age-adjusted death rates and causes of deaths in the nine census tracts around the landfill and to compare these results with statistics for the population countywide. We expect the analysis to be completed in the next week.
- 5) **Analysis of childhood asthma:** To address community concerns about respiratory illness, we will attempt to assess the prevalence of childhood asthma in the neighborhoods adjacent to the landfill compared to the prevalence countywide (available from the Los Angeles County Health Survey). We are exploring two possible strategies to collect the needed data for children residing near the landfill. First, we have scheduled a meeting with the principal of the elementary school closest to the landfill to determine if we can access the school health records of incoming kindergartners over the past several years to determine the percentage with a history of asthma. Second, we are planning a targeted household survey (see below).
- 6) **Household survey:** A number of community members expressed concern that the official cancer statistics from USC do not accurately reflect what is occurring in their community for at least two reasons. First, some cancers may have occurred that have not yet been reported to the registry and, second, some long-time residents (especially children who grew up in the area) may have moved away prior to being diagnosed with cancer. These persons would not be included in the USC CSP statistics for the area adjacent to the landfill because cancer

determine if there have been cases of unreported cancer or children who moved away and were then diagnosed with cancer as adults. The survey will also include questions about asthma and other chronic respiratory conditions. The number of households sampled will be determined by statistical power calculations and by available resources although we estimate the number will be in the range of 100 households.

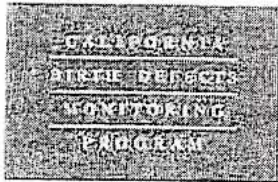
7. **Additional cancer casefinding:** Because there are many more households in the census tract closest to the landfill than will be included in the survey, we will also offer concerned residents in this census tract an opportunity to voluntarily submit cancer reports using a standardized reporting form to identify additional cases among current residents and those who grew up in the neighborhood and then moved away. If unreported cases are identified among current residents, this information will be used to update the USC CSP analysis. Cases identified among former child residents who moved away cannot be used to calculate cancer rates because we do not have information on all persons who lived in the census tract in the past. However, the cancer reports can be reviewed to determine if there are uncommon cancers occurring that have been shown in the published peer-reviewed scientific literature to be linked to environmental causes.
8. **Literature review:** We have begun a review of the research literature on the relationship between landfills and the health of nearby residents. We will provide a written summary of this review in the next month.

It is important to note that the data analyses described above will provide information on the rates and patterns of specific health conditions and overall mortality in the community near the landfill compared to the rest of the county. However, the analyses will not be able to assess cause and effect relationships between the landfill and health conditions. For example, if we find a higher prevalence of childhood asthma in the community than among children countywide, this disparity could be due to known triggers of asthma (e.g., pollen, animal dander, cigarette smoke, and ambient air pollution) rather than factors associated with the landfill. In addition, the tools of epidemiology as described above are generally not sensitive enough to detect adverse health effects, even when there is evidence of toxic exposures, unless the exposures are at much higher levels (as for example, in a hazardous work setting) than would be plausibly expected in a community setting.

We will provide you with information on the results of our investigation as they become available. If you have questions, please contact either of us or Dr. Paul Simon at (213) 240-7785.

TLG:JEF:ps
309:013

- c. Chief Administrative Officer
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Community Birth Defects Assessment on the Sunshine Canyon Landfill Area

Final Report: October 24, 2003

Report prepared by: John A. Harris, M.D., M.P.H. *John A. Harris M.D.*
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Background: At the request of the Los Angeles County, Department of Health Services and the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment, the California Birth Defects Monitoring Program (CBDMP) compared rates of specific birth defects in zip code areas close to Sunshine Canyon Landfill with rates in all of Los Angeles County. CBDMP is recognized internationally for the quality of its birth defects surveillance and research. In order to collect data on birth defects, CBDMP uses the "gold standard" for data collection: that is CBDMP staff visit 250 hospitals and genetic centers in California to identify children with structural congenital anomalies diagnosed during the first year of life.

Methodological Considerations: Epidemiological investigations are relatively conclusive when large, population-based samples are involved. Conversely, investigations like this involving local area analysis are limited by small sample sizes. The California Birth Defects Monitoring Program used all available data, but rate estimates in the zip codes under question still had wide confidence intervals. The confidence interval indicates that there is a 95% probability that the actual rate falls somewhere between the lower and the upper limit. In calculating rates for zip codes around the landfill, wide confidence intervals mean that the rate estimates are very imprecise due to the small sample sizes of pregnant women and small numbers of children born with specific birth defects.

Results: Table 1 below shows no statistically significant elevated rates in the zip code 91344 closest to the landfill compared to Los Angeles County as a whole. In other words the confidence intervals around the rate estimates for the congenital heart defects, Transposition of the Great Vessels and Tetralogy of Fallot, overlapped with the confidence intervals around the rate estimates for Los Angeles County. Similarly in the other zip codes 91326 and 91342, rates were not statistically significantly higher. Also, combining data (data not shown) among all the zip codes for each of the birth defects conditions in Table 1 reveals no significant difference in rates in the combined areas close to the Sunshine Canyon landfill compared to all of Los Angeles County.



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Table 1: Birth Defects Rates with 95% confidence intervals LA County, zip code 91344 and zip codes 91326 and 91342, years 1990-2001. (Rates per 10,000 live and still births)

Condition	LA county	Zipcode:91344	Zipcode: 91326	Zipcode: 91342
Neural tube defects	5.61 (5.29-5.94)	3.01 (0.57-8.40)	6.86 (0.83-19.09)	7.21 (3.84-11.62)
Transposition of Great Vessels	2.25 (2.05-2.46)	4.52 (0.93-10.89)	0	2.22 (0.60-4.86)
Tetralogy of Fallot	3.44 (3.18-3.70)	4.52 (0.93-10.89)	3.43 (0.09-12.64)	3.33 (1.22-6.47)
Cleft lip with or without cleft palate	14.68 (14.15-15.21)	9.04 (3.32-17.58)	24.00 (9.65-44.73)	11.09 (6.78-16.45)
Down Syndrome	13.27 (12.77-13.77)	7.54 (2.45-15.43)	6.86 (0.83-19.09)	14.97 (9.87-21.12)

Discussion: Since all available data from 12 years were combined for this analysis, it is reassuring to note that there is no difference in birth defect rates among residents living in any of the zip codes close to the Sunshine Canyon Landfill compared to Los Angeles County as a whole. Furthermore, even if rates were high in the above zip codes, that would not necessary implicate exposure to the landfill. On the other hand, because of the small sample sizes in the zip codes under question and other methodological considerations, this investigation can not rule out that exposures to the Sunshine Canyon Landfill are associated with a small risk of developing birth defects among some people living nearby.